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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/796,256 | 03/09/2004 | Volker Krueger | 414-35025-US | 2388 |

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| EXAMINER | |
|---|---|
| COY, NICOLE A | |
| **ART UNIT** | **PAPER NUMBER** |
| 3672 | |

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/796,256 | KRUEGER ET AL. | |
| | Examiner | Art Unit | |
| | Nicole Coy | 3672 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *05 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/5/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 6-9, 11, 13, 15-19, 21-24, 26, 27, and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Kruspe et al. (US Application Publication 2002/0153136).

With respect to claims 1 and 16, Kruspe et al. discloses a system/method for controlling sensor motion during a measurement, comprising: a drilling assembly in a wellbore (see figure 1), said drilling assembly having a drill bit (50) at one end and engaged with a drilling tubular (20) at an opposite end thereof (see figure 1); a first sensor disposed in said drilling assembly for making a measurement of a formation parameter of interest (see figure 2); and a substantially non-rotating stabilizer disposed in said drilling assembly proximate said first sensor (see figure 2), said substantially non-rotating stabilizer adapted to reduce motion of said first sensor below a predetermined level during said measurement (see page 1 paragraph [0003]).

With respect to claims 2 and 17, Kruspe et al. discloses that the first sensor comprises an NMR sensor (see abstract).

With respect to claims 3 and 18, Kruspe et al. discloses a second sensor for detecting motion of the drilling assembly proximate the first sensor (see page 3 paragraph [0026] and figure 1).

With respect to claims 4 and 19, Kruspe et al. discloses that the second sensor comprise an accelerometer (see page 3 paragraph [0026]).

With respect to claims 6 and 21, Kruspe et al. discloses that the wellbore comprises a deviated wellbore (see figure 1).

With respect to claims 7 and 22, Kruspe et al. discloses that the non-rotating stabilizer comprises: a housing attached to said drilling assembly (see figure 2); a sleeve substantially surrounding at least a portion of said housing (see figure 2 numeral 102); a bearing acting cooperatively with said sleeve and said housing for allowing relative motion between the sleeve and the housing (see figure 2 numeral 103); and a rib attached to said housing, said rib extending radially outward from the housing to reduce motion of said first sensor below a predetermined level (see figure 2 numeral 110).

With respect to claims 8 and 23 Kruspe et al. discloses a predetermined level of 2.0 millimeter (wherein the non-rotating stabilizer of Kruspe et al. would inherently reduce the motion of the sensor below 2 mm).

With respect to claims 9 and 24, Kruspe et al. discloses that the rib is a straight rib (see figure 2 numeral 110).

With respect to claims 11 and 26, Kruspe et al. discloses that the rib is an adjustable rib, said adjustable rib adapted to be controllably extended to contact a borehole wall (see page 4 paragraph [0036]).

With respect to claims 13 and 27, Kruspe et al. discloses that the housing is adapted to displace the center of the non-rotating stabilizer relative to a longitudinal axis of the drilling assembly (see figures 1 and 2, wherein said housing is adapted to displace the center of the non-rotating stabilizer relative to a longitudinal axis of the drilling assembly).

With respect to claims 15 and 29, Kruspe et al. discloses that the first sensor comprises at least one of (i) a density sensor and (ii) a porosity sensor (see page 1 paragraph [0006]).

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 5 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kruspe et al. in view of Bostick, III et al. (US Patent Application 2004/0065437).

While Kruspe et al. teaches taking acceleration measurements, Kruspe et al. does not disclose that the sensor specially comprises three mutually orthogonal accelerometers. Orthogonal accelerometers are well known in the prior art for use in

deviated wells in order to reflect the true status of the earth formation. See Bostick, III et al. page 3 paragraph [0037]. It would have been obvious to one having ordinary skill in art at the time of the invention to modify Kruspe et al. by including three orthogonal accelerometers as taught by Bostick, III et al. in order to obtain data on the true status of the earth formation.

5. Claims 10 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kruspe et al. in view of Jurgens ( USP 4,011,918).

With respect to claims 10 and 25, Kruspe et al. discloses the claimed invention except for a spiral rib. Stabilizers having spiral ribs are well known in the prior art. See Jurgens column 3 lines 3-19. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kruspe et al. by using the well-known spiral ribs on the stabilizer as they are a type of rib commonly used in the art.

6. Claims 14 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kruspe et al. in view of Kruspe et al. (USP 6,637,524).

Kruspe et al. does not disclose a non-rotating stabilizer being deployed on each side of the first sensor. Kruspe et al. (USP 6,637,524 teaches a non-rotating stabilizer being deployed on each side of a NMR sensor (see figure 13) in order to reduce the vibration of the NMR assembly (see column 12 lines 19-28). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kruspe et al. by including a stabilizer on each side of the NMR sensor as taught by Kruspe et al. (USP 6,637,524) in order to reduce the vibration of the NMR assembly.

***Allowable Subject Matter***

7. Claims 12 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole Coy whose telephone number is 571-272-5405. The examiner can normally be reached on M-F 8:00-5:30, 1st F off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nicole A Coy

nac

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